

WHAT IS CLAIMED IS:

1. ~~1/2~~ A combination including:
a container comprising a polymeric resin matrix including at least one post-halogenated polymeric material, and
5 a 1,1-disubstituted ethylene monomer composition contained in said container.
2. The combination of claim 1, wherein said post-halogenated polymeric material is present on at least an interior surface of said container.
3. The combination of claim 1, wherein said post-halogenated polymeric material is in direct contact with said 1,1-disubstituted ethylene monomer composition.
- 10 4. The combination of claim 1, wherein said polymeric material is selected from the group consisting of a polyolefin and an engineered resin.
5. The combination of claim 4, wherein said polymeric material is high density polyethylene.
6. The combination of claim 4, wherein said polymeric material is linear
15 low density polyethylene.
7. The combination of claim 6, wherein said polymeric material is polyethylene terephthalate.
8. The combination of claim 1, wherein said polymeric material comprises at least one polymer selected from the group consisting of low density polyethylene,
20 linear low density polyethylene, high density polyethylene, cross-linked high density polyethylene, polypropylene, polyethylene terephthalate, polybutylene terephthalate, and oriented polyethylene terephthalate.
9. The combination of claim 1, wherein said container is a laminate and a layer comprising said post-halogenated polymeric material is in direct contact with said
25 1,1-disubstituted ethylene monomer composition.
10. The combination of claim 1, wherein said combination has a shelf-life of at least about twenty-four months.
11. The combination of claim 1, wherein said combination has a shelf-life of at least about thirty months.
- 30 12. The combination of claim 1, wherein said container is sterilized.
13. The combination of claim 1, wherein said 1,1-disubstituted ethylene monomer composition comprises an alkyl α -cyanoacrylate adhesive monomer having an alkyl carbon length of at least six carbons.

14. The combination of claim 13, wherein said alkyl α -cyanoacrylate adhesive monomer is 2-octyl cyanoacrylate.

15. The combination of claim 14, wherein said container comprises:
a body comprising an interior and an exterior surface, wherein said body
5 comprises a post-halogenated high density polyethylene polymer on at least said interior surface,

a dispenser nozzle comprising at least an interior surface, wherein said dispenser nozzle comprises a post-halogenated linear low density polyethylene on said interior surface, and

10 a cap comprising post-halogenated polypropylene.

16. The combination of claim 1, wherein said post-halogenated polymeric material is a post-fluorinated polymeric material.

17. The combination of claim 1, wherein said post-halogenated polymeric material is a post-chlorinated polymeric material.

15 18. The combination of claim 1, wherein said post-halogenated polymeric material comprises a surface region and a sub-surface region, and wherein a halogen concentration in said surface region is greater than a halogen concentration in said sub-surface region.

19. The combination of claim 1, said polymeric resin matrix further
20 comprising a halogen-containing acid.

20. The combination of claim 19, wherein said halogen-containing acid is hydrofluoric acid or hydrochloric acid.

21. A method of manufacturing a polymeric container containing a 1,1-disubstituted ethylene monomer, comprising;

25 providing a container comprising a polymeric material, said container comprising at least an internal surface and an external surface,

halogenating said polymeric material on at least said internal surface of said container,

dispensing a 1,1-disubstituted ethylene monomer composition into said
30 container, and

optionally sealing said container.

22. The method of claim 21, wherein said halogenating is performed after molding said polymeric material into a form that is to be the form of the container.

23. The method of claim 21, wherein said halogenating is performed concurrent with molding said polymeric material into a form that is to be the form of the container.

5 24. The method of claim 23, wherein said molding comprises blow-molding a parison using a halogen-containing gas, and said halogen-containing gas also performs said halogenating.

25 The method of claim 24, wherein residual halogen-containing species from said molding remain captured or dissolved in said container and are not removed from said container prior to said dispensing.

10 26. The method of claim 21, wherein said 1,1-disubstituted ethylene monomer is an alkyl α -cyanoacrylate.

27. The method of claim 26, wherein said alkyl α -cyanoacrylate has an alkyl chain length of at least 6 carbons.

15 28. The method of claim 27, wherein said alkyl α -cyanoacrylate has an alkyl chain length of 8-12 carbons.

29. The method of claim 28, wherein said alkyl chain length is 8 carbons.

30. The method of claim 21, further comprising sterilizing said 1,1-disubstituted ethylene monomer composition.

20 31. The method of claim 21, wherein said halogenating comprises fluorinating said polymeric material on at least said internal surface of said container.

32. The method of claim 21, wherein said halogenating comprises chlorinating said polymeric material on at least said internal surface of said container.

25 33. The method of claim 21, wherein said polymeric material is selected from the group consisting of low density polyethylene, linear low density polyethylene, high density polyethylene, cross-linked high density polyethylene, polypropylene, polyethylene terephthalate, polybutylene terephthalate, and oriented polyethylene terephthalate.

34. The method of claim 21, wherein residual halogen from said halogenating remains in said polymeric material.

30 35. The method of claim 34, wherein said residual halogen forms an acid.

36. The method of claim 35, wherein said residual acid is selected from the group consisting of hydrofluoric acid and hydrochloric acid.

37. A method of storing a 1,1-disubstituted ethylene monomer composition in a container comprising:

providing a container comprising a polymeric resin matrix including at least one post-halogenated polymeric material,

5 dispensing a 1,1-disubstituted ethylene monomer composition into said container, and

storing said monomer-containing container for more than one year without failure of the container or monomer composition.

38. The method of claim 37, wherein said storing of said monomer-containing container is for more than twenty-four months without failure of the container or monomer composition.

39. The method of claim 37, wherein said storing of said monomer-containing container is for more than thirty months without failure of the container or monomer composition.

40. The method of claim 37, wherein said 1,1-disubstituted ethylene monomer composition comprises an alkyl α -cyanoacrylate adhesive monomer having an alkyl carbon length of at least six carbons.

41. The method of claim 37, wherein said 1,1-disubstituted ethylene monomer composition comprises an alkyl α -cyanoacrylate adhesive monomer having an alkyl carbon length of from two to five carbons.

42. The method of claim 37, wherein said container is made by a process comprising:

providing a container comprising a polymeric material, said container comprising at least an internal surface and an external surface, and

25 halogenating said polymeric material on at least said internal surface of said container.

43. The method of claim 37, further comprising sealing said container between said dispensing step and said storing step.

44. The method of claim 43, further comprising sterilizing said container after said sealing step.

45. A container containing an adhesive monomer composition, comprising:

a container comprising a polymeric resin matrix including at least one post-halogenated polymeric material, and

an adhesive monomer composition contained in said container.

46. A combination including:

5 a container comprising a polymeric resin matrix including at least one functionalized polymeric material, and

a 1,1-disubstituted ethylene monomer composition contained in said container.

47. The combination according to claim 46, wherein said polymeric material is functionalized with at least one member selected from the group consisting of SO_3H , CO_2H , CONR_2 , COX , CO_2R , SO_2X , SO_2NH_2 , SO_2NR_2 , and mixtures thereof, where R represents a substituted or unsubstituted organic radical and X represents a halogen.

48. The combination according to claim 46, wherein said polymeric material is functionalized with SO_3H groups.

15 49. The combination according to claim 46, wherein said polymeric material is functionalized with carboxylic acid groups.

50. The combination according to claim 46, wherein said polymeric material is functionalized with sulfonamide groups.

20 51. A method of manufacturing a polymeric container containing a 1,1-disubstituted ethylene monomer, comprising;

providing a container comprising a polymeric material, said container comprising at least an internal surface and an external surface,

functionalizing said polymeric material on at least said internal surface of said container,

25 dispensing a 1,1-disubstituted ethylene monomer composition into said container, and

optionally sealing said container.

52. The method according to claim 51, wherein said polymeric material is functionalized with at least one member selected from SO_3H , CO_2H , CONR_2 , COX , CO_2R , SO_2X , SO_2NH_2 , SO_2NR_2 , and mixtures thereof, where R represents a substituted or unsubstituted organic radical and X represents a halogen.

53. The method according to claim 51, wherein said polymeric material is functionalized with SO_3H groups.

54. The method according to claim 51, wherein said polymeric material is functionalized with carboxylic acid groups.

55. The method according to claim 51, wherein said polymeric material is functionalized with sulfonamide groups.

also as

11/11/2011 11:11:11 AM